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## Moral Injury in Traumatized Refugees

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Refugees are typically exposed to multiple types of traumatic events, which have a deleterious impact on their mental health [1]. While research has focused on posttraumatic stress responses, theorists and clinicians have long recognized that the effects of refugee trauma extend beyond fear-related reactions. The concept of ‘moral injury’ has emerged from work in military settings and can be conceptualized as ‘the lasting psychological, biological, spiritual, behavioral and social impact of ... bearing witness to acts that transgress deeply held moral beliefs and expectations’ [2]. In the context of persecution-related violence, individuals are often exposed to events that directly contravene deeply held moral frameworks, such as murder, sexual assault and torture. To date, however, no research has examined moral injury in civilians exposed to persecution and trauma. In this study, we investigated the extent to which moral injury suffered by traumatized refugees contributed to psychological outcomes, including posttraumatic stress disorder (PTSD), depression, explosive anger and mental health-related quality of life.

Participants in this study were 134 treatment-seeking refugees and asylum seekers residing in Switzerland. The sample comprised 78.4% males, and the participants had a mean age of 42.4 years (SD = 9.8). The participants were from a variety of countries, including 53% from Turkey, 12% from Iran, 8% from Sri Lanka, 5% from Bosnia, 5% from Iraq, 5% from Afghanistan and 13% from other countries. Most participants (85.1%) had been exposed to torture. 51.5% of the participants met DSM-5 criteria for PTSD, 80.6% met criteria for depression, and 65.7% reported experiencing episodes of anger sometimes or often.

Participants completed self-report measures using a psychologist-assisted computer-based assessment tool, and were reimbursed CHF 40 (approx. USD 40) for participation. These scales indexed trauma exposure [3], postmigration stressors [4], PTSD symptoms [5], depression symptoms [6] and mental health-related quality of life [7]. The scale indexing explosive anger was developed for the current study, and the Moral Injury Scale was adapted from the Moral Injury Events Scale, developed by Nash

et al. [8]. Example items of the Moral Injury Scale include ‘I am troubled by morally wrong things done by other people’ and ‘I feel betrayed by people I once trusted’. All scales were translated into study languages and backtranslated, with discrepancies being rectified by the translators and research team.

Hierarchical regression analyses (table 1) were used to predict psychological outcomes including PTSD and depression symptoms, explosive anger reactions and mental health-related quality of life. Demographics were entered at step 1, trauma exposure was entered at step 2, living difficulties were entered at step 3, and moral injury was entered at step 4. Moral injury significantly predicted all psychological outcomes, after controlling for demographics, the impact of trauma and living difficulties. Moral injury accounted for 16% of the variance in PTSD, 16% in depression, 10% in explosive anger and 10% in mental health-related quality of life.

Findings from this study indicate that the extent to which the individual is troubled by acts that have transgressed his or her morals contributes significantly to mental health outcomes and quality of life, even after controlling for dosage of trauma exposure and postmigration stressors. These results are consistent with theoretical models and empirical evidence from research with trauma survivors that suggest that cognitive appraisals are key contributing factors to posttrauma mental health [9]. The potential for traumatic events to challenge core cognitive belief systems may be especially strong in the context of human-instigated trauma, persecution or torture. In the current study, the perception of traumatic events as transgressions against basic moral frameworks was strongly associated with poor mental health outcomes. This is consistent with evidence that survivors of the war in former Yugoslavia believed less in the benevolence of other people [10]. Taken together, these findings indicate that exposure to war trauma and persecution poses fundamental challenges to core cognitive frameworks, which may negatively impact on subsequent mental health and functioning.

To date, treatments for PTSD have combined extinction learning and cognitive interventions to address core symptoms of the disorder. The focus on fear extinction reflects the implication of fear-conditioning principles in models of posttraumatic stress reactions. PTSD symptoms are targeted in therapy via extinction learning, in which the trauma survivor learns that conditioned cues are not dangerous, and anxiety is reduced accordingly. While there is strong evidence that this approach is effective in reducing posttraumatic stress responses, it may not be sufficient for moral injury-related distress; for example, exposure therapy is less effective in posttraumatic anger responses than fear reactions [11]. In contrast, cognitive aspects of PTSD interventions have centred on correcting maladaptive appraisals related to the traumatic event to reduce distress and improve functioning [8]. Findings from this study point to the potential for taking a cognitive approach that

**Table 1.** Regression analyses predicting PTSD, depression, anger and mental health-related quality of life in tortured refugees

	PTSD (PDS) (R <sup>2</sup> = 0.39)					Depression (HSCL) (R <sup>2</sup> = 0.36)					Anger (Explosive Anger Scale) (R <sup>2</sup> = 0.25)					MHQOL (SF-12) (R <sup>2</sup> = 0.19)				
	B	SE	β	t	R <sup>2</sup> ch	B	SE	β	t	R <sup>2</sup> ch	B	SE	β	t	R <sup>2</sup> ch	B	SE	β	t	R <sup>2</sup> ch
Age	-0.01	0.01	-0.10	-1.09		-0.01	0.01	-0.06	-0.66		0.01	0.01	0.12	1.39		0.14	0.07	0.18	1.91	
Gender	<0.001	0.15	<0.001	0.01	0.01	0.12	0.14	0.08	0.89	0.01	0.17	1.16	0.10	1.11	0.03	0.15	1.69	0.01	0.09	0.03
Trauma	0.05	0.01	0.31	3.66 <sup>#</sup>	0.10	0.03	0.01	0.22	2.49 <sup>*</sup>	0.05	0.03	0.01	0.21	2.43 <sup>*</sup>	0.04	-0.20	0.16	-0.12	-1.26	0.01
LDC	0.06	0.01	0.35	4.36 <sup>#</sup>	0.12	0.06	0.01	0.39	4.68 <sup>#</sup>	0.14	0.05	0.02	0.29	3.35 <sup>†</sup>	0.08	-0.40	0.17	-0.22	-2.40 <sup>*</sup>	0.05
Moral injury	0.06	0.01	0.42	5.69 <sup>#</sup>	0.16	0.06	0.01	0.42	5.48 <sup>#</sup>	0.16	0.05	0.01	0.34	4.09 <sup>#</sup>	0.10	-0.56	0.15	-0.33	-3.68 <sup>#</sup>	0.10

PDS = Posttraumatic Diagnostic Scale; HSCL = Hopkins Symptom Checklist; MHQOL = mental health quality of life; SF-12 = Medical Outcomes Study – Short Form; LDC = Living Difficulties Checklist; SE = standard error; R<sup>2</sup>ch = R<sup>2</sup> change. \* p < 0.05, † p < 0.01, # p < 0.001.

addresses moral injury with survivors of refugee trauma and torture. Cognitive interventions, such as schema therapy, may be useful to target deep-seated cognitive changes that stem from the experience of extreme human rights violations. Further research is needed to determine the optimal clinical strategies to alleviate the mental health impact of traumatic events that transgress basic moral principles, including specific cultural and religious beliefs that have been violated in the course of trauma.

Study limitations include the fact that all participants were treatment seeking, reducing the generalizability of findings, the use of measures that had not been validated in all cultural groups in this study, and the limitations of the measures that were designed for this study. Finally, a substantial proportion of the variance in our outcome measures remained unexplained and may be attributed to other influential variables that we did not index.

In conclusion, findings from this study indicate that moral injury contributes significantly to mental health outcomes in traumatized refugees, over and above the impact of trauma exposure and postmigration stressors. These results highlight the importance of considering the impact of trauma on the belief systems of torture survivors. There is a need to evaluate existing cognition-based interventions to determine their efficacy in treating the mental health impact of moral injury in refugees.

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